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ABSTRACT OF THE DISCLOSURE

A suppressed carrier optical communications signal is generated by driving (biasing) an optical modulator capable of complex modulation of an optical carrier signal to a bias point near a zero-crossing point of the modulator's E-field response. A complex input signal is then used to drive excursions of the E-field response to impress the input signal onto the optical carrier. The resulting lightwave emerging from the complex modulator exhibits an optical spectrum characterised by a pair of sidebands and a strongly suppressed carrier. Bias control of the complex modulator is implemented on the basis of the optical power detected at the output of the complex modulator. This enables the optical modulator to be treated as a "black box", in that calculation of the bias signals does not relay on knowledge of the precise performance characteristics of the modulator.